



Environment, Energy and Forestry

Annual Report 2007-2008



Table of Contents

Message from the Minister	1
Deputy Minister's message	3
Department Overview	5
Legislative and Other Responsibilities Assigned to Minister	6
Organizational Chart	7
Year in Review	8
Bilan de l'année	10
Administrative Services Division	12
Energy and Minerals Division	16
Forests, Fish and Wildlife Division	20
Pollution Prevention Division	39
Water Management Division	48

Minister's Message

The Honourable Barbara Hagerman
Lieutenant Governor
Province of Prince Edward Island

May It Please Your Honour:

It is my privilege to present the Annual Report of the Department of
Environment, Energy and Forestry for the fiscal year ended March 31, 2008.

Respectfully submitted,



George Webster
Minister during the Reporting Period

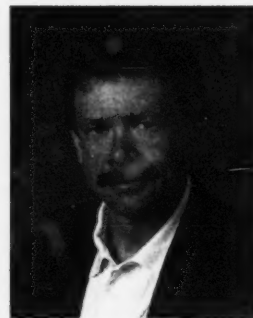


Deputy Minister's Message

To the Honourable George Webster
Minister of Environment, Energy and Forestry

Sir:

I am pleased to submit the Annual Report of the Department of Environment, Energy and Forestry for the fiscal year ended March 31, 2008. This report will focus on the achievements of the department during the period of April 1, 2007, to March 31, 2008.



I would like to recognize and thank the employees of the Department of Environment, Energy and Forestry for their dedication and service throughout the fiscal year.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'John MacQuarrie'. The signature is stylized with a large, looping 'J' and 'M'.

John MacQuarrie
Deputy Minister

Department Overview

Our Vision

Our vision is of an enhanced connection between Islanders and their environment. Individuals, communities, businesses and governments value our natural capital. They understand the relationship among our environment, health and economy, and this relationship is a key consideration in all decision-making. Prince Edward Island is identified as Canada's "green" province – a model of sustainability.

Our Mission

Our mission is to work in close co-operation with Islanders to realize our vision.

- We help establish standards and work to ensure compliance for the protection of our natural environment.
- We lead by setting a positive example.
- We help Islanders make decisions that support the vision by publicly reporting on the state of our natural capital.

Legislative and Other Responsibilities Assigned to the Minister of Environment, Energy and Forestry

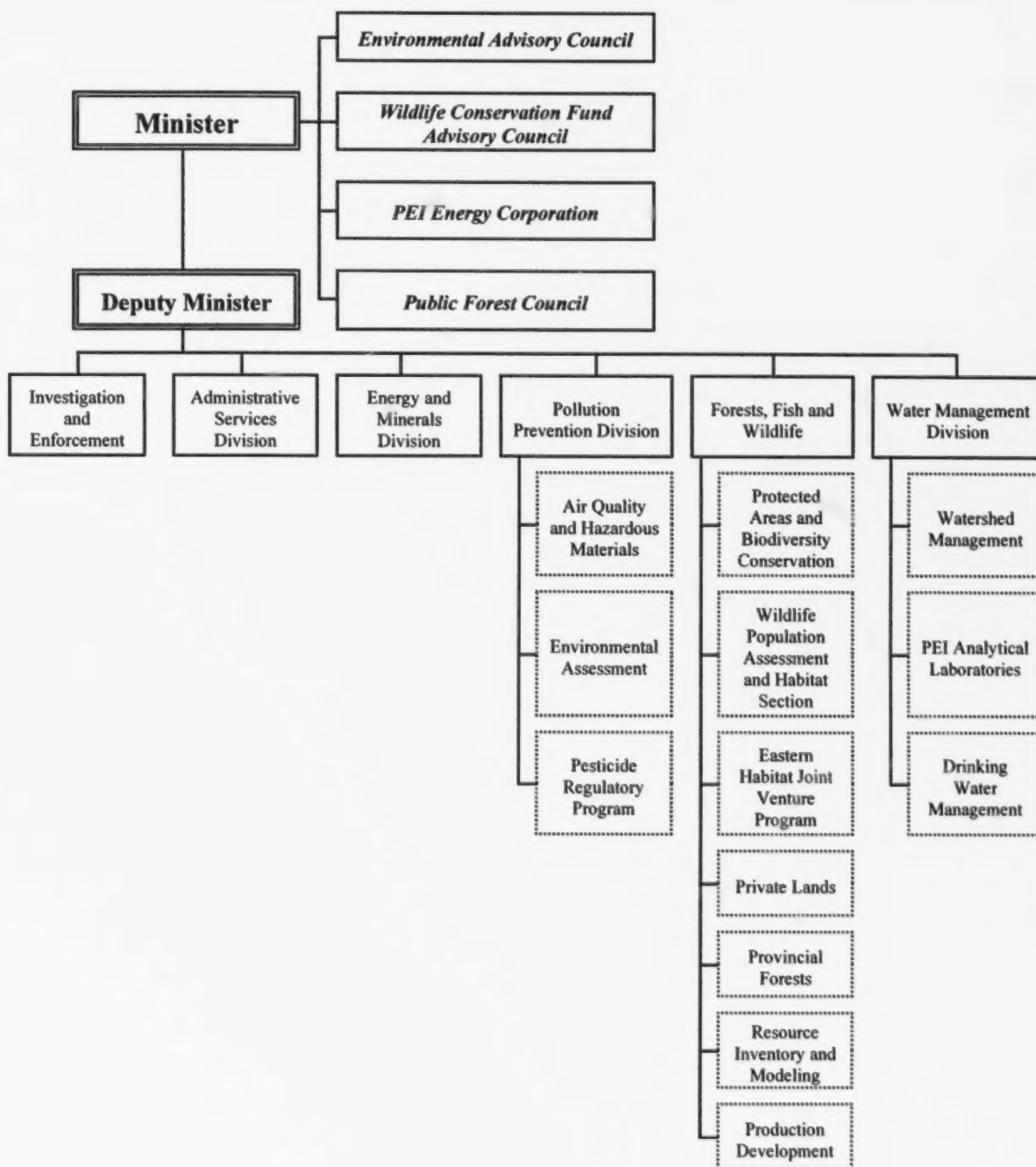
Acts/Statutes

Agricultural Crop Rotation Act
Automobile Junk Yards Act
Energy Corporation Act
Energy Efficient Appliances Act (when proclaimed)
Environmental Protection Act
Fire Prevention Act (Part VII)
Forest Management Act
Institute of Man and Resources Act
Mineral Resources Act
Natural Areas Protection Act
Natural Gas Distribution Act (when proclaimed)
Oil and Natural Gas Act
Pesticides Control Act
Public Forest Council Act
Unsightly Property Act
Wildlife Conservation Act

Board/Agencies/Commissions

Energy Corporation
Environmental Advisory Council
Environmental Coordinating Committee
Natural Areas Protection Act Technical Advisory Committee
Natural Gas Distribution Board (upon proclamation of the *Natural Gas Distribution Act*)
Public Forest Council
Species at Risk Advisory Committee
Wildlife Conservation Fund Advisory Committee

Organizational Chart



Year in Review

Following are highlights of department activities in 2007-2008:

- The Provincial Government secured \$15 million in federal funding for Clean Air and Energy Efficiency Projects in Prince Edward Island, as part of a trust fund set up by the Federal Government to support provincial projects to help reduce greenhouse gas emissions and air pollutants. Projects include: support for homeowners to install renewable energy technologies and make their homes more energy efficient; investment in renewable energy technologies and energy saving measures in Government buildings; a program to introduce renewable energy demonstration projects in several Island schools; and a hydrogen fuelling station for the Prince Edward Island Wind-Hydrogen Village.
- The department released a Report on Watershed Public Consultations entitled *We are all upstream, We are all downstream, We are all part of a watershed*. It includes 43 recommendations under six broad categories: Governance on a Watershed Basis; Policies, Regulations and Programs; Education/Awareness; Research and Technical Support; Organization and Structure; and Funding.
- The Government of PEI announced it will change provincial regulations requiring beer and pop to be sold in refillable bottles and introduce a deposit/return system for non-refillable beverage containers.
- To encourage energy efficiency, the department offered 200,000 energy efficient light bulbs to schools, at no cost, for school fundraising projects.
- In May, fire crews from the Department's Forests, Fish and Wildlife Division responded to two forest fires in the Souris Line Road and Wood Islands areas.
- A free workshop was held in August to help teenagers learn all they need to know to have a safe and successful waterfowl hunt – the eighth annual Youth Waterfowl Hunting Workshop at the Charlottetown Trap and Skeet Club in Mount Albion September 8.
- A new trail system was opened at the John A. Hogg Kensington Public Forest was opened. The 2.4 kilometres of trails run through Acadian forest and grassland habitat.
- Community-based “nitrate clinics” were announced in response to an early recommendation of the Commission on Nitrates in Groundwater, which is developing a strategy to address the issue of nitrate concentrations in water. By March 2008, water from more than 2,500 homes was tested through these clinics.
- The department joined partners in a hydrogen demonstration project using two hydrogen-powered shuttle buses and a hydrogen fueling station. The purpose of the project is to test the hydrogen technology in a maritime climate.

- A process to create a recreational fisheries policy for PEI was launched in December 2007. Strategies and actions needed to enhance Prince Edward Island's recreational fisheries were opened to public discussion and input.
- The Office of Energy Efficiency opened in January 2008 to offer advice on energy conservation measures available to the ordinary consumer, and offer programs to help Islanders make their homes as energy efficient as possible. Two new provincial programs were available immediately – Home Energy Low-income Program and Renewable Heat Loan Program. Later in the year the following programs were added: PEI EcoEnergy Audit Assistance Program, PEI Energy Efficiency Loan Program and PEI Energy Efficiency Grant Program.
- A special horse logging project on 1.7 hectares (nearly four acres) of public land was established near Dundas. The Provincial Forests program is interested in demonstrating and using a range of sustainable forest management techniques.
- The department hired an Alternative Land Use Services (ALUS) Coordinator to promote environmentally sound land use practices. ALUS is a voluntary program, based on incentives, that recognizes farmers for the contributions they make to clean air and water, to protection of water quality and to biodiversity.
- Portable electrical meters were made available for loan from every branch of the public library system across the province. The meters allow consumers to easily measure the energy consumption of appliances and equipment throughout their homes. The meters will be available for loan for a one-week period, and anyone wishing to borrow a meter can reserve one through the library hold system.

Bilan de l'année

Voici les points saillants des activités du ministère en 2007-2008 :

- Le gouvernement provincial a obtenu 15 millions de dollars en financement fédéral pour les projets de qualité de l'air et de changements climatiques à l'Île-du-Prince-Édouard, dans le cadre d'un fonds en fiducie établi par le gouvernement fédéral afin d'appuyer des projets provinciaux qui entraînent la réduction des émissions de gaz à effet de serre et des polluants atmosphériques. Les projets incluent notamment le soutien aux propriétaires pour installer des technologies d'énergie renouvelable et pour améliorer l'efficacité énergétique de leur domicile; les investissements dans les technologies d'énergie renouvelable et les mesures d'économie d'énergie dans les édifices gouvernementaux; un programme pour introduire des projets de démonstration d'énergie renouvelable dans de nombreuses écoles de l'Île; et un point de remplissage d'hydrogène pour le Village vent-hydrogène de l'Île-du-Prince-Édouard.
- Le ministère a publié un rapport sur les consultations publiques sur les bassins hydrologiques intitulé *We are all upstream, We are all downstream, We are all part of a watershed*. Le document inclut 43 recommandations sous six catégories générales : la gouvernance en fonction des bassins hydrologiques; les politiques, règlements et programmes; l'éducation et la sensibilisation; la recherche et le soutien technique; l'organisation et la structure; et le financement.
- Le gouvernement de l'Î.-P.-É. a annoncé qu'il modifiera les règlements provinciaux qui exigent que la bière et les boissons gazeuses soient vendues dans des contenants réutilisables et qu'il introduira un système de consignation pour les contenants de breuvages non réutilisables.
- Afin d'encourager l'efficacité énergétique, le ministère a donné 200 000 ampoules écoénergétiques aux écoles pour les campagnes de financement scolaires.
- En mai, les équipes d'incendie de la division des forêts du ministère ont répondu à deux feux de forêts dans les régions de la route Souris Line et de Wood Islands.
- En août, on a tenu un atelier gratuit pour enseigner aux adolescents et adolescentes les connaissances nécessaires pour mener une chasse au gibier d'eau sécuritaire et réussie. Le huitième atelier annuel des jeunes sur la chasse au gibier d'eau s'est tenu au Charlottetown Trap and Skeet Club à Mount Albion le 8 septembre.
- On a ouvert un nouveau réseau de sentiers à la forêt publique John A. Hogg de Kensington. La forêt est composée de 2,4 km de sentiers qui sillonnent une forêt acadienne et un habitat d'herbage.
- On a annoncé la tenue de « consultations sur les nitrates » dans les collectivités qui sont le résultat d'une recommandation hâtive de la Commission sur les nitrates dans l'eau souterraine qui met au point une stratégie pour aborder la question de la concentration en nitrates dans l'eau. En mars 2008, l'eau de plus de 2500 domiciles avait été évaluée grâce à ces consultations.

- Le ministère s'est associé à des partenaires dans un projet de démonstration de l'hydrogène qui utilise deux navettes alimentées à l'hydrogène et un point de remplissage de l'hydrogène. Le projet permet de faire l'évaluation des technologies de l'hydrogène dans le climat maritime des maritimes.
- En décembre 2007, on a lancé un processus d'élaboration d'une politique en matière de pêche récréative pour l'Î.-P.-É. Les stratégies et les mesures nécessaires pour améliorer la pêche récréative à l'Île-du-Prince-Édouard ont été présentées au public pour la discussion et les commentaires.
- L'Office de l'efficacité énergétique a ouvert en janvier 2008 afin d'offrir des conseils sur les mesures de conservation d'énergie offertes aux consommateurs ordinaires, et pour offrir des programmes qui aident les Insulaires à améliorer l'efficacité énergétique de leur domicile. On a offert deux nouveaux programmes provinciaux immédiatement : le Programme d'énergie domestique pour les personnes à faible revenu et le Programme de prêts pour le chauffage renouvelable. Plus tard dans l'année, les programmes suivants ont été ajoutés : le Programme d'aide à la vérification écoénergétique de l'Î.-P.-É., le Programme de prêt pour l'efficacité énergétique de l'Î.-P.-É., et le Programme de bourses pour l'efficacité énergétique de l'Î.-P.-É.
- Un projet spécial d'exploitation forestière au moyen de chevaux sur 1,7 hectare (près de 4 acres) de terres publiques a été établi près de Dundas. Le programme des forêts provinciales vise à démontrer une variété de techniques de gestion des forêts durables et à en faire l'utilisation.
- Le ministère a engagé un coordinateur des Services de diversification des modes d'occupation des sols (ALUS) afin de promouvoir des pratiques saines de l'utilisation des sols. Les ALUS sont un programme bénévole, fondé sur des mesures incitatives, qui reconnaît les propriétaires fonciers pour les contributions qu'ils apportent à la purification de l'air et l'eau, la protection de la qualité de l'eau et la biodiversité.
- On a mis des compteurs électriques à la disposition du public dans toutes les succursales du Service des bibliothèques publiques de la province. Les compteurs permettent aux consommateurs de facilement mesurer la consommation d'énergie des appareils électroménagers et de l'équipement dans leur domicile. Toute personne pourra emprunter un compteur pour une période d'une semaine grâce au système de réservation des bibliothèques.

Administrative Services Division

Mandate

The Administrative Services Division provides financial, human resource and administrative services to department personnel. The division has the overall responsibility for preparing and monitoring the department budget and providing financial analysis and advice to department management. Human resource management support for the department is provided by the division in areas such as recruitment and selection, position management, orientation, training and planning. The division processes financial and payroll transactions; and is responsible for various administrative services such as reception, vehicle management, telecommunications system administration, accommodation requirements, records management activities, information technology services, risk management, freedom of information and protection of privacy coordination, and occupational health and safety program planning.

Department Staff Summary

As part of the Human Resource Planning process, a number of new positions (six full-time and three part-time) were identified to fill gaps within the organization and support new programs.

The Office of Energy Efficiency was opened at the Sherwood Business Centre and four new positions were created: the Manager of the Office of Energy Efficiency, an Energy Programs Officer, a Sustainable Operations Program Officer and an Administrative Assistant.

There were other new positions created and approved as new initiatives for the department:

- Two Seasonal Conservation Officer (50 per cent) positions were created. These officers are fully trained with full authority to lay charges and proceed to court. They have been assigned in particular to the protection and patrol of the Confederation Trail and other recreational areas.
- A Records Clerk was created to facilitate records management activities and assist the department with ongoing maintenance of records.
- A Contaminated Site Inspector (67 per cent) was added to identify the abandoned contaminated sites in the province as required under the *Environmental Protection Act* Contaminated Sites Registry Regulations.
- An Administrative Support Worker was added as a result of the increased workload in the Pesticide and Enforcement areas.

Permanent Position Establishment (as of March 31/08)		
	Full Time	Part Time
Pollution Prevention	18	1
Water Management	30	5
Administrative Services	21	5
Energy	8	0
Forests, Fish and Wildlife	37	32
Total	114	43

In addition to the above established positions the department employed 66 casual employees and 59 students during the fiscal year 2007-2008.

Department Financial Summary

2007-2008 Actual Expenditure and Revenue			
Division	Original Budget	Revised Budget	Actual Expenditure/Revenue
Expenditure Budget:			
Department Management	\$1,292,200	\$1,251,100	\$1,163,757
Pollution Prevention	\$1,488,400	\$1,478,700	\$1,399,428
Water Management	\$2,765,000	\$2,849,200	\$2,779,857
Administration	\$531,000	\$519,700	\$496,911
Forests, Fish and Wildlife	\$6,192,700	\$6,817,200	\$6,748,486
Energy and Minerals	\$5,588,100	\$5,490,000	\$5,374,787
Total	\$17,857,400	\$18,405,900	\$17,963,226
Revenue Budget:			
Department Management	0	0	\$9,400
Pollution Prevention	\$221,600	\$221,600	\$297,558
Water Management	\$405,000	\$405,000	\$709,597
Administration	\$500	\$500	\$388
Forests, Fish and Wildlife	\$1,176,400	\$1,724,900	\$1,607,927
Energy and Minerals	\$105,000	\$105,000	\$126,618
Total	\$1,908,500	\$2,457,000	\$2,751,488
Total Net	\$15,948,900	\$15,948,900	\$15,211,738

Based upon financial reports dated June 3, 2009

There was one Special Warrant in the amount of \$548,500 for a light detecting and ranging (LiDAR) survey project which was 100 per cent funded under the Canada/PEI National Water Program.

Freedom of Information and Protection of Privacy Act

The department received 18 new Access to Information requests under the *Freedom of Information and Protection of Privacy Act* between April 1, 2007 and March 31, 2008. In addition, there were two previously received requests that were still open as of April 1, 2007. Thus, there were a total of 20 requests that were active during the 2007-2008 fiscal year. Of these 20 active requests, 17 were closed prior to March 31, 2008, and three remained open (including requests under appeal).

Access to Information Request Summary from April 1, 2007 to March 31, 2008.	
Open requests as of April 1, 2007 (including requests under appeal)	2
New requests received between April 1, 2007 and March 31, 2008	18
Total active requests between April 1, 2007 and March 31, 2008	20
Active requests that were closed between April 1, 2007 and March 31, 2008	17
Open requests as of March 31, 2008 (including requests under appeal)	3

Investigation and Enforcement

This year saw seven full-time conservation officers and three part-time pesticide inspectors carrying caseloads through to the court system, while relaying the message that the department was taking violations seriously and working to improve compliance, through education and enforcement.

The Investigation and Enforcement Section is responsible for protecting the following acts and regulations pertaining to the environment, fish and wildlife, and pesticides:

- *Automobile Junk Yards Act*
- *Environmental Protection Act*
- *Highway Traffic Act*
- *Natural Areas Protection Act*
- *Off-Highway Vehicle Act*
- *Pesticides Control Act*
- *Planning Act*
- *Recreational Development Act*
- *Trail Act*
- *Unsightly Property Act*
- *Wildlife Conservation Act*

As well, through formal and informal agreements with Environment Canada, Fisheries and Oceans and the Royal Canadian Mounted Police, the province enforces the following federal acts and regulations related to pollution prevention and wildlife protection:

- *Trespass to Property Act*, related to hunting and fishing
- *Fisheries Act (CANADA)*, related to sport fishing and habitat destruction
- *Migratory Birds Convention Act (CANADA)*, related to the protection of migratory birds
- *Wild Animal/Plant Protection and Regulation of International and Interprovincial Trade Act*, related to the illegal trade and harvesting of wildlife
- *Small Vessel Regulations*, related to boat safety
- *Criminal Code (CANADA)*, related to firearms offences and other criminal offences that an officer may come across in the field

The following table illustrates the violations and warnings recorded between the period of April 1, 2007, to March 31, 2008. There were a total of 361 violations across the province.

Statute	Charges	Warnings
<i>Automobile Junk Yards Act</i>	5	1
<i>Environmental Protection Act</i>	117	77
<i>Fire Prevention Act</i>	1	0
<i>Fisheries Act</i>	2	4
<i>Forest Management Act</i>	1	0
<i>Highway Traffic Act</i>	2	3
<i>Liquor Control Act</i>	2	0
<i>Migratory Bird Act</i>	10	7
<i>Off-Highway Traffic Act</i>	11	9
<i>Pesticides Control Act</i>	18	39
<i>Small Vessel Regulations</i>	1	0
<i>Trails Act</i>	5	6
<i>Trespass to Property Act</i>	3	0
<i>Wildlife Conservation Act</i>	13	24
Total	191	170

Energy and Minerals Division

Mandate

The Energy and Minerals Division of the department is responsible for the development, implementation and administration of energy policies and programs. The division lends administrative and technical support to the activities of the Prince Edward Island Energy Corporation. Administration and regulation of hydrocarbon (oil and natural gas) and mineral resources are also within the division's mandate.

Highlights

New Energy Strategy

In 2004, the *Energy Framework and Renewable Energy Strategy* was released that provided a number of proposed action items which have, for the most part, been fulfilled. Central to this policy document was the establishment of a wind power industry on Prince Edward Island which is now supplying more than 15 per cent of the province's electrical energy.

Regardless of successful efforts to incorporate more renewable energy into the electricity supply mix, the core issue impacting energy supply and pricing for Islanders has not changed. There still remains an overwhelming reliance on imported oil that is priced in accordance with world market conditions that are beyond provincial control. Obviously, more work needed to be done to reduce Prince Edward Island's overwhelming dependence on fossil fuels, through pursuing other sources of renewable fuels, and instituting a culture of energy conservation and efficiency. The New Energy Strategy, to be titled *Securing Our Future: Energy, Conservation and Renewables*,

will provide greater focus to these elements over five- and 10-year planning cycles.

Through a competitive bidding process, MRSB Consulting of Charlottetown was awarded a contract in November 2007 to prepare a draft strategy document for public comment. It is expected that the draft strategy will be available to the public in April 2008. During May 2008, a series of public consultation sessions are slated for several Island communities to further build on consensus for proposed initiatives and action items, after which a finalized strategy will be published.

Office of Energy Efficiency

Reducing consumption through efficiency is the most cost-effective approach to saving energy dollars and the environment. On January 22, 2008, the Prince Edward Island Office of Energy Efficiency (OEE) officially opened its doors to provide Islanders with a one-stop-shopping venue for information about provincial and federal energy efficiency programs, services and information. Located at 161 St. Peters Road in Charlottetown, the opening of the OEE was timely as escalating oil and electricity prices became a greater financial burden for residents and businesses. In particular, electricity prices had increased by seven per cent over the past year and are expected to continue to rise in the near term.

In its initial days of operation, the OEE continued with the delivery of the Home Energy Low Income Program (HELP) and the Renewable Heat Program. Under HELP, cost-effective, energy efficiency retrofits were installed by local tradespeople to low income

households and 97 applications were processed under this program. The Renewable Heat Loan Program provided low interest loans for applicants who installed heating systems such as wood stoves, pellet burners or other heating appliances that utilized a renewable energy source and received applications from 342 individuals. These programs expired on March 31, 2008, as the OEE began its design and implementation of new initiatives.

On March 5, 2008, the Office of Energy Efficiency announced the PEI Existing Homes Initiative which included the following program elements:

- *PEI EcoEnergy Audit Assistance Program* – pays for half the cost of a pre and post energy audit, to a maximum of \$250 per household.
- *PEI EcoEnergy Audit Program for Low Income Households* – pays for all the costs of a pre- and post-energy audit, to a maximum of \$500, for a low income household.
- *PEI Energy Efficiency Grant Program* – provides a direct subsidy, up to \$1,500 per household, to Island residents who implement the measures identified in their EcoEnergy Audit Program report.
- *PEI Energy Efficiency (Windows and Doors) Grant Program* – provides clients a grant of \$30 per eligible (energy efficient) window or door that is installed. (Amounts received under this program are deducted from the maximum available incentives under the PEI Energy Efficiency Grant Program.)

The Office of Energy Efficiency will continue to deliver programs to meet the needs of Islanders. In addition to its suite of residential programs, the OEE is developing programs and initiatives for other sectors of the provincial economy.

Oil and Natural Gas Exploration

Three oil and gas companies hold nine exploration permits in and around Prince Edward Island with a total land base of 320,000 hectares (790,000 acres). Corridor Resources Inc. maintains two permits in the central area of the province and has drilled exploratory wells near Cavendish. Focusing their attention mainly in eastern PEI, PetroWorth Resources Inc., holds six permits in this area of the province. The only issued offshore rights have been issued to BP Canada Energy Company for a permit off the eastern tip of Prince Edward Island. This block contains the site of the E-49 exploratory well that was drilled in the early 1970s and remains the most promising indication of commercial resources in this basin. The E-49 well test flowed 5.4 million cubic feet of gas per day and would undoubtedly have been exploited if it had been located on land.

In 2007, Corridor Resources and PetroWorth Resources partnered to drill two wells in the province. The Green Gables #3 well at Cavendish showed initial promise and well stimulation (reservoir fracturing) proceeded to improve gas flow to the surface. Results of this activity continue to be monitored. The New Harmony #1 well, east of Souris, encountered salt water intrusion and the partners agreed to curtail future exploration at the site. Plugging and abandoning activities are scheduled to be completed by mid-2008.

Energy Database

The Energy and Minerals Division maintains a database of energy statistics compiled from various sources that is used to prepare various reports and policy documents. Because fuel wood consumption is not tracked by other statistics collection agencies, the division commissions its own survey for this energy fuel. In a survey of the 2007-2008 Heating Season, it was revealed that approximately 100,000 cords of firewood were consumed annually by the residential sector and 20 per cent of Island homes utilize this energy source as their primary method for heating. The most recent fuel wood survey also showed a dramatic increase in the residential installation of pellet burners.

Governmental Committees

Division staff represent PEI on several intergovernmental energy working groups as part of the province's responsibility toward Canada's Council of Energy Ministers (CEM). Internationally, staff deal with energy matters that arise through the Northeast International Committee on Energy which is a subcommittee of the Conference of New England Governors and Eastern Canadian Premiers.

Regional issues require staff involvement through the Atlantic Energy Ministers' Forum. In the past, this committee has dealt with such issues as the harmonization of oil and gas exploration, the sharing of energy efficiency initiatives and furthering regional cooperation on other energy matters.

Within the Provincial Government, the division provides representation on the Interdepartmental Biofuels Committee (IDBC).

PEI EnerPool Program

The PEI EnerPool Program continues to demonstrate the value of ride sharing for reducing energy consumption and traffic congestion. This also produces favourable results for the environment by eliminating harmful air emissions. A Souris route provides weekday transportation to and from Charlottetown.

PEI Energy Corporation Activities

The Energy and Minerals Section is actively involved in the various projects and initiatives undertaken by the PEI Energy Corporation. During this reporting period the corporation was involved in the following:

East Point Wind Plant

March 1, 2008, marked the first anniversary of production of the East Point Wind Plant at Elmira. During this 12-month period, the 30 megawatt facility generated more than 85 million kilowatt-hours of emission free electricity for consumers on Prince Edward Island. This represents nine per cent of the province's electrical energy requirements or enough power to service 15,000 households. Consisting of 10-Vestas V-90 turbines, the \$47 million project annually displaces 70,000 tonnes of greenhouse gases and other harmful air emissions.

In addition to the East Point Wind Plant, the PEI Energy Corporation owns and operates a 10.56 megawatt wind farm at North Cape and purchases and resells wind power produced by Suez N.A. from their nine megawatt wind facility at Norway, PEI. All of the electricity generated from these facilities is sold to Maritime Electric Company, Ltd. for provincial consumption.

Wind-Hydrogen Village Project

The economic feasibility of producing hydrogen on a commercial scale as a replacement fuel to imported electricity and imported oil may be several years into the future; however, the developments at the Wind-Hydrogen Village in North Cape are positioning both Government and PEI companies for the hydrogen economy when it develops beyond the early adoption phase.

With a budget of just under \$3.35 million, the project generates hydrogen gas through electrolysis using renewable energy (wind power). The produced hydrogen may then be utilized in fuel cells or supplied to internal combustion engines for electric power generation or transportation applications. In combination with wind power facilities, hydrogen technology provides exciting opportunities for storing intermittent, renewable energy.

Hydrogen Bus Demonstration Project

The Hydrogen Bus Demonstration Project was originally a component of the Wind-Hydrogen Project but has been restructured as a stand-alone initiative, because of the donation of two buses by Ford Canada and the funding of operating costs by Natural Resources Canada and Air Liquide Canada.

During June 2007, a temporary hydrogen fueling station was installed at the Provincial Government Garage on Riverside Drive in Charlottetown. More than 100 emergency personnel have been trained to effectively respond to a hydrogen incident at the site.

Initially, the hydrogen buses will be put in service as part of the Charlottetown Transit System. It is anticipated that future funding will be available through Natural Resources Canada's new ecoENERGY Technology Initiatives (ecoETI) that will enable the hydrogen buses to receive province-wide exposure. Through ecoETI, hydrogen fueling infrastructure could be strategically installed at North Cape and Eastern Kings. Prince Edward Island would thus become Canada's first province to span its jurisdiction with hydrogen-based transportation for eco-tourism and public transit initiatives.

Forests, Fish and Wildlife Division

Mandate

The Forests, Fish and Wildlife Division promotes sustainable forest management and wildlife and habitat conservation on public and private lands. The division manages approximately 30,635 hectares of public land, including 18,900 hectares in Provincial Forests and an additional 13,040 hectares in Wildlife Management Areas and Natural Areas. The lands include 80 impoundments which provide important habitats, and serve as sites for angling, hunting, trapping, canoeing, birdwatching and other outdoor recreation

The division provides assistance and advice to private landowners, and collects and maintains forest inventory information, wildlife population and habitat data, and other land use information. Work includes producing seedlings for public and private land planting and tree improvement work, and licensing more than 8,177 trout anglers, 284 salmon anglers, 2,698 hunters, 101 trappers, and 78 guides and 17 outfitters on Prince Edward Island in 2007. The division provides forest fire suppression on public and private lands, and delivers information programs to engage the public in forest, fish and wildlife issues.

Highlights

2007-2008 marked the first full year under the 2006 Forest Policy and work began to meet the various commitments. A signage program was begun to identify the public lands managed by the division and a new Public Land Atlas was

released to help the public identify these lands and their primary management strategies.

The Private Land program, in cooperation with the PEI Model Forest Network, began work on a landscape level forest management project in western Prince Edward Island. The intent of this project is to help local people manage large areas of forest for multiple economic, environmental and social benefits to participating landowners and local communities.

In order to build connections between landowners and local forest companies and businesses, the Market Development Officer and Wood Products PEI developed a Virtual Wood Yard website. This site allows those who have forest-related products and services to connect with those who want to buy products or use their services to manage wood lands, produce timber and non-timber forest products, and support the needs of local landowners and local businesses.

A cooperative venture between the division, the Town of Kensington and the Public Forest Council led to the creation of the Kensington Public Forest. This area will be used to conserve high-value forests in one of the most intensively farmed areas on PEI and serve as an area for outdoor recreation, water conservation and research.

Forests, Fish and Wildlife Information

The Forest, Fish and Wildlife Division Information program coordinates general awareness and youth education programs related to Island forests, and provides communications support and planning services to the director,

managers, and staff from the division's various programs.

Fifty-two radio segments were completed for *Agriculture Today*, a weekly radio program that runs on several Island stations. Another 12 issues of *ForestNet*, a monthly newspaper column which features topics of interest to the Island's forest community and focuses on increasing the profile of web-based resources related to Island forests. The Information Officer also worked to maintain and upgrade the division's website. Considerable time was spent updating and improving the look and feel of the Fish and Wildlife program website.

The new Forest Policy recommended the development of a consistent signage program for the public lands managed by the division. A new signage program for Provincial Forests, Wildlife Management Areas, Natural Areas, and Ponds and Wetlands was developed for launch in the summer of 2007.

The Information Officer is also responsible for the development of the annual Provincial Forest Envirothon, a voluntary science education program for senior high school students that emphasizes basic science skills in forestry, soils, aquatics and wildlife. It is a cooperative effort with the Provincial Forest program, and staff from other programs, departments and agencies across PEI. Nine teams from Charlottetown Rural, Bluefield, Colonel Grey, Kensington, and Three Oaks High Schools competed in the 2007 Provincial Forest ENVIROTHON. A team from Bluefield won the overall competition and was invited to the 2007 Canon ENVIROTHON competition in New York.

The department worked with Canadian Woodlands Forum, and other forest sector partners from across the region to develop and

host the 2007 Atlantic Teachers Tour program. Seven Island teachers visited forests in southwestern New Brunswick to learn about the science used to manage Maritime forests, explore the economic and social aspects of large and small forest-based industries, and examine the range of forest sector employment opportunities for their students.

The Forest Information Officer continued to provide logistical and communications support to the Public Forest Council and PEI Model Forest Network Partnership program. Communications support was also provided to several division and department programs, as well as some external clients who work with the division.

Market Development

The production of value-added products recovered from Island forests is becoming increasingly more important to the provincial economy. The Market Development Officer is focused on finding strategies that will enhance the value received from products harvested in forests. By increasing the value recovered from a unit of raw product, the province will benefit from an increase in processing employment. The gathering and/or processing of Non Timber Forest Products is another area for market exploration and development.

In 2007 and 2008 several initiatives to enhance the value-added wood products sector and the Non Timber Forest Products sector were undertaken. In the spring of 2007 a workshop entitled Barriers to Using PEI Wood was held to examine the obstacles to using more Island-harvested wood in the manufacturing process in this province. This event included representatives from all levels of the supply chain.

During the year the Market Development Officer attended two off-Island events, one for non-timber forest products and the other for value-added wood products. Each of these events were successful in creating new benefits for PEI. The Market Development Officer was responsible for organizing and hosting educational events. The managers of Forests, Fish and Wildlife attended a tour of value-added business with the intension of bridging the link between the resource and the end users. A non-timber forest products seminar was conducted by Lloyd Mapplebeck for both staff and public in an effort to raise awareness of the possibilities this sector can have in the Island's forests.

Fire Programs

Mandate

The Forests, Fish and Wildlife Division promotes sustainable forest management and wildlife and habitat conservation on public and private lands. The division manages approximately 30,635 hectares of public land, including 20,000 hectares in Provincial Forests and an additional 8,862 hectares in Wildlife Management Areas and Natural Areas. The lands include 90 impoundments which provide important habitats, and serve as sites for angling, hunting, trapping, canoeing, birdwatching and other outdoor recreation.

The division provides assistance and advice to private landowners, and collects and maintains forest inventory information, wildlife population and habitat data, and other land use information. Work includes producing seedlings for public and private land planting and tree improvement work, and licensing more than 7,960 anglers, 2,940 hunters, 95 trappers and 155 guides on Prince Edward Island. The division provides

forest fire suppression and prevention programs on public and private lands, and delivers information programs to engage the public in forest, fish and wildlife issues.

Highlights

The original Muskeg Bombardier was refitted to improve its capacity as a rapid response off-road forest fire tanker.

Provincial Forests Section

Provincial forest land is managed to encourage a range of economic, environmental and social benefits. Staff continued to implement and demonstrate sustainable forest management on the 20,000 hectares of land managed by the program through a combination of forest district operational work plans, tendered contracts, public partnering and on-site labour. Work was initiated on a request for proposals system for public lands management.

In 2007, the Provincial Forest program planted 117,400 tree seedlings of 16 species on 81.3 hectares of the provincial forests. Some 43 hectares of manual plantation maintenance and 64 hectares of stand improvement was conducted on these lands. A total of 12 hectares of recently harvested land was site prepared to allow planting in 2008. A forest access bridge was repaired, 0.1 km of new provincial forest road was constructed, 78.6 km of roads were maintained, and 29.3 km of road right-of-way encroachment was cleared, 2.3 km of boundary line trimming was conducted and stop log lumber for public fishways was supplied.

Under the supervision of provincial forests staff, seasonal forest workers implemented manual plantation maintenance on 18.3 hectares, pruned 12.4 hectares of plantations for value-added

timber production, conducted site reclamation on 4.1 hectares of declining softwood, interplanted 32,000 seedlings to improve biodiversity, and removed dangerous trees and pruned branches for the second annual Legends of Golf event at the Links at Crowbush Cove. Provincial forest tenders were offered on site preparation, fuel wood, horse logging, manual maintenance and balsam fir tips. Tendered sales of harvested wood and balsam fir tips brought in revenues of \$41,600 in 2007-2008. A planting experiment on germinated red oak seed was conducted and the Mount Allison University Dendrology Lab conducted sampling of old growth species.

Technical assistance was provided to several schools and community groups for the planting and management of trees as well as to Scouts Canada's Trees for Canada, and the Batesville Memorial Planting programs. Support was also provided for the development of community partnerships for new public walking trails, acquisition of new public forest within the 22 Provincial Forest acquisition areas, school and community group education initiatives, chainsaw silviculture worker training for the Federation of Agriculture and other projects, cutting firewood safely workshops, natural areas designation, community plantings and environmental assessment of public forests. The cleanup of illegally dumped materials on Provincial Forest properties continued.

The development of an integrated signage system for all departmental lands was completed. The new Provincial Forest identification signs were launched in 2007 at the Hillsborough River Eco-centre. Signage on the Demonstration Woodlot Trail System was upgraded and replaced. Staff assisted and co-ordinated tours with school and community groups and others. The Provincial Forest symbol

was included in newspapers ads, on the web and on the highway map to inform Islanders about the location and management of this public resource, and to encourage visitation and use these properties for outdoor recreation.

The staffing processes were completed for the Eastern Forestry District Site Crew Boss position, and four casual Silviculture Worker recall positions. Staff learning events included two forest plant indicator workshops, a value added processors tour in Western District, a climate change workshop in Fredericton, N.B., water quality and quantity workshop in Charlottetown, human resources development workshops, a hardwood silviculture tour in N.S., Swedish Co-op presentation, an old growth forest management workshop, an invasive species workshop, greening spaces workshop and a beaver management workshop.

The Eastern Forest District and the PEI Roadrunners Association hosted the 8th annual Provincial Forest Fall Frolic at the New Harmony Demonstration Woodlot in October 2007. There were more than 140 participants who came to walk the 4.6 kilometre trail or run the 12.3 kilometre trail and enjoy the natural beauty of the Provincial Forest in fall. Participants donated over \$1,000 for MacIntyre House in Souris. As well, technical support continued for the Southern Kings Consolidated, St. Peter's and Eastern Kings Consolidated schools.

The Central Forest District continued forest renewal work and maintenance on the Brookvale Nordic Ski Trail property. Technical support was provided to support the development of a long hiking trail in the Dromore Provincial Forest/Wildlife Management Area. Technical support was also provided for a planting program at the Donagh

Regional School and the planting program with the Gulf Shore Consolidated School was continued. A memorandum of understanding was developed to allow the Silvicultural Worker Lesson Planning to non-government organizations.

Staff from the Western Forest District assisted with the tree planting partnerships with the International Children's Memorial Place and Town of Kensington. In addition, the Provincial Forest Mill River Sugar Bush Tours attracted 965 students, teachers and members of the public. The very successful third annual *Giving Trees . . . Giving Hope* fundraising and education initiative with the Canadian Breast Cancer Network was held at the Harmony Line Road Richmond Provincial Forest in May 2007 and the tree and shrub guide for this event was revised. Staff assisted with the PEI Forestry Fair in Richmond.

A series of silviculture worker chainsaw safety courses was offered to various agencies across the Island in 2007. Other special initiatives included the Agriculture Fun Day and J. Frank Gaudet Nursery Open House as well as the provision of technical advice to minimize the potential impacts of major projects on public and private forests.

Fire Suppression and Prevention

The fire season got off to a quick start and abruptly ended. Green-up was very quick and intermittent rains kept fire weather indices quite low. In 2007, eight forest fires were reported in Prince Edward Island and these fires burned approximately 19.3 hectares.

Summary of Forest Fire Statistics for the 2006 Fire Season

Fires			Hectares		
Full	Modified	Total	Full	Modified	Total
8	0	3	19.3	0	19.3

Costs			Values Lost			
Pre-Suppression	Suppression	Total	Forest Res.	Interface	Improvement	Total
\$ 157,200 Estimate	\$ 25,000 Estimate	\$ 182,200 Estimate	\$ NA	0	0	\$ NA

On the prevention side, the Fire Weather Index (FWI) was calculated by the Department of Environment, Energy and Forestry from the meteorological data collected at three sites. The wildfire danger rating was provided daily to division offices, other departments and local media through Island Information Service, and was made available during the fire season via telephone or the internet www.gov.pe.ca/go/fwi.

New operating agreements were negotiated and signed with the Souris, Georgetown, Wellington, West Point and East River Fire departments. Staff participated in the Western Mutual Aid group. Forest fire staff participated in two community parades and a Forestry Fair as part of our forest fire awareness program. In September, the department provided radios to support a multi-fire-department and Island EMS training exercise featuring a mock, large vehicle collision with injuries. A mobile radio use survey was conducted in conjunction with the Office of Public Safety. Several backpack pumps with lumbar support were acquired for evaluation.

Forestry prescribed burns on the Island were almost non-existent. Prescribed burning of forest residues for agricultural conversion for row crops and blueberry cultivation as well as infrastructure development is still at a significant level. A total of 808 burning permits were issued in 2007 as part of the forest fire prevention program.

More links were built to the forest fire website and the web publications were updated. New legislation on working alone was enacted and the Forests, Fish and Wildlife Division led the efforts to research and develop the necessary safe work practice and procedures.

Significant upgrades were made on the older Muskeg Bombardier to complete repair of damage arising from the 2006 fires.

Staff provided input into the business planning initiatives of the Canadian Interagency Forest Fire Centre, Canada's forest fire mutual aid corporation. In addition, staff continued participation in the Canadian Wildland Fire Strategy initiative.

Basic forest fire suppression training was provided to volunteer firefighters at several locations using a CD-ROM version of the basic forest fire suppression course.

In September, the department participated in the Atlantic Forest Fire Coordinating Committee meeting in Economy, N.S.

Public Forest Council

The Public Forest Council initiatives in 2007-2008 included two public forest wildlife workshops, a value added product workshop, a landscape level planning, and public awareness as well as the exploration of public forest issues.

In 2007-2008, Public Forest Council membership was composed of five private sector representatives and two Forests, Fish and Wildlife Division staff members. Representation includes broad-based expertise relevant to the forest resource and the types of proposals which would likely be brought forward. Forest biology, business economics, community development expertise, forest management and tourism industry expertise are also skill sets sought on the council. In addition, a representative of the council participated in the PEI Model Forest Network Partnership planning and project evaluation teams.

Representatives of the council and the Town of Kensington completed the trail design, more botanical surveys were conducted along the proposed Kensington Public Forest trail, and a brochure was prepared. Work was completed on the trail and the official unveiling ceremony of the John A. Hogg - Kensington Public Forest on August 21, 2007.

Two forest wildlife workshops titled Enhancing your Property for Wild Things were conducted at Poole's Corner and Richmond and a value added marketing tour was co-hosted in Western PEI.

Private Lands Section

Some 88 per cent of Prince Edward Island's forest land is owned and controlled by thousands of private woodlot owners. The department offers a number of programs and services designed to help private landowners manage their forest lands.

Forest Enhancement Program

Initiated in 2002 the Forest Enhancement Program (FEP) continues to provide forest management advice to landowners and cost-share forest management treatments which enhance wildlife, recreation, bio-diversity and timber values.

In 2007, 83 forest management plans were prepared by private sector consultants. Once these plans were approved by the department, landowners were able to access grants for silvicultural treatments such as planting, pre-commercial thinning, riparian zone enhancement and crop tree selection. FEP grants totaled \$125,000 for 2007-2008.

Forest Renewal Program

The Forest Renewal Program continues to attract landowners interested in receiving technical advice and financial assistance to plant their lands with commercial softwood tree species. In 2007, 1,615,000 seedlings were shipped from the J. Frank Gaudet Tree Nursery to private lands across the province. FRP expenditures and grants totaled \$861,000 for 2007-2008.

Maintenance was completed on 620 hectares of previously established private land plantations. Client uptake was good for treatments such as pruning and plantation cleaning with 52 hectares treated. Both of these treatments will help to improve the growth and quality of softwood timber and saw logs.

The Forest Renewal Program continues to be supported by the harvest and processing industry, while landowner demand remained steady for FRP services.

PEI Model Forest Initiatives

The department continued to be an active participant in the PEI Model Forest Network Partnership project, along with other groups including industry and non-governmental agencies. This organization has 21 partners involved in consensus building for sustainable forest management.

In 2007, the PEI Model Forest Network Partnership was able to secure core funding of \$100,000 from the Canadian Forest Service for the development and implementation of the work plan. Ten projects were funded to support the Virtual WoodYard and further connections between landowners and forest-based businesses, develop a watershed restoration project, conduct a red pine thinning and utilization trial, and offer an upland game

habitat management field day. The partnership also developed a proposal for a Landscape Level Planning project in western Prince Edward Island.

The department provided a staff member to serve as a part-time Project Coordinator.

Forest Harvest Trends

Most of the wood harvested each year is cut on private lands. Public forest harvesting usually accounts for less than five per cent of the annual harvest volume.

Recent mill closures in Eastern Canada, combined with declining U.S. housing markets and the high Canadian dollar, have had a major negative effect on forest product markets particularly for softwood products such as studwood and low grade pulp. Stumpage prices offered to Island woodlot owners have been in a steady decline since the highs experienced in the late 1990s. Many forest harvesting contracting companies have either downsized or changed the emphasis of their businesses, and this often means that landowners have difficulty finding markets or workers to carry out management and harvest treatments.

Forest inventory information over the last two decades has predicted a drastic decline in the amount of softwood fibre available for harvest by 2010. Industry's move to increased harvesting in mixed wood stands suggests that the predicted decline in pure softwood stand availability is becoming a reality.

The total log harvest for 2007 was estimated to be 464,000 cubic metres, and down nearly 35 per cent from the 2004 level of 710,500 cubic metres.

Softwood Products

The Island's softwood harvest volume peaked at almost 550,000 cubic metres per year in 1999. In 2007, the softwood harvest was 213,000 cubic metres, of which saw logs and studwood accounted for 80 per cent.

Hardwood Products

In recent years, the annual harvest has been estimated to be increasing, primarily due to demand for hardwood fuel. In 2007 hardwood harvested remained relatively steady with the harvest estimated to be 261,000 cubic metres.

The fuelwood (mostly hardwood) harvest for 2007 was 241,000 cubic metres and contributed an estimated \$8.4 million to the provincial economy.

While the volumes required are often small, many of Prince Edward Island's value-added forest product companies have expressed interest in sourcing more raw wood on-Island, particularly high quality hardwood logs. The value-added sector is working with various partners to develop ways of connecting local wood users and producers in a mutually beneficial manner.

Harvest Value

The 2007 value of the delivered primary softwood forest products was estimated to be about \$40 million, while the total delivered value of all wood products was estimated to be \$63 million. The secondary wood products manufacturing industry (cabinets, flooring, furniture, etc.) contributed an estimated value of between \$20 and \$25 million annually to the provincial economy.

Production Development Section

In January 1951, a forest service was created by the Provincial Government and placed under the direction of J. Frank Gaudet; a forest tree nursery began at Beach Grove the following year. During the period of 1959 to 1979, this nursery produced approximately 300,000 bare root tree seedlings. In 1979, the nursery expanded and re-located to 173 Upton Road and covers a growing area of 64,000 square feet.

Today, the J. Frank Gaudet Tree Nursery produces high quality improved tree seedlings for reforestation projects and wholesales native trees and shrubs to retail landscape trade. In 2007, some 2,051,000 seedlings, representing 13 softwood, 11 hardwood and 13 native shrub species were shipped for the planting of cut-overs, riparian zones, hedgerows, Christmas trees, and special areas on private and public lands across the Province.

Staff offer tours of the nursery to groups and individuals who are interested in visiting the largest seedling production facility on PEI. In 2007, 380 people from school, youth and conservation groups, as well as the general public, toured the facility. During Environment Week 2007, 506 people visited the nursery and viewed displays on public and private forests, riparian zone management, environmentally friendly agricultural practice, horticulture, farm safety, entomologist and native plants, and many other displays related to PEI's natural resources.

As part of the Atlantic Innovation Fund, the nursery has agreed to assist with the Native Rose Development, a five-year research initiative at the University of Prince Edward Island. The nursery and staff offer professional and technical direction, advice and assistance;

provide a work area for a graduate student; a work area and labour for preparation of cutting material; materials and supplies for project (containers, growing media, rooting hormone, fertilizer); greenhouse facilities and operation (temperature and humidity controlled); fertilizer and pesticide programs; general crop maintenance after rooting; overwintering of crop; and delivery of crop. The nursery produced 1,000 plants from eight selected naturalized sites for project outplanting.

The nursery was involved with the Eastern Canadian Soil and Water Conservation Centre in establishing three sites of over 2,000 plants for an agro-forestry demonstration.

The nursery gives advice, assistance and information on insect and disease problems for ornamental plants, trees and shrubs, and provides detailed information on landscaping and plant health issues. In 2007, staff provided advice on landscape problems to thousands of PEI property owners; analyzed approximately 563 insect and disease samples; and made 32 on-site visits to individuals and communities. The nursery also monitors native insect populations and in February a technical presentation on native and exotic insects was delivered.

Tree Improvement

The Tree Improvement Program produces the seed required for the nursery. This is achieved by controlled cross-breeding of selected high quality samples of several Acadian forest tree species.

In 2007, measurements of 10 test sites were carried out, recording growth and survival and maintenance was also done on test sites. The Dover Seed Orchard provided 10.7 kilograms of improved seed and an ongoing maintenance

program at the Dover Seed Orchard is carried out annually.

Greening Spaces Program

The Greening Spaces Program (GSP) invites and encourages communities, schools, volunteers and interest groups to plant trees that would diversify properties; buffer prevailing winds; provide shade; reduce noise; protect lands along streams and rivers; control soil erosion; create outdoor learning areas such as arboreta or tree and shrub nurseries; and provide habitat for wildlife. Nursery staff also provided a 30-hour course on ornamental horticulture for the Golf Course Technician's Program at Holland College.

In 2007, the GSP worked with 106 clients to establish over 73,000 native shrubs and trees in public and private land across the province. Clients included 12 schools, 18 community groups (supplied 7,113 shrubs/trees), 22 watershed groups (supplied 25,812 shrubs/trees), and 54 hedgerow/riparian zone clients (supplied 40,261 shrubs/trees).

Resource Inventory and Modeling Section (RIMS) 2007-2008

Public Land Atlas

As a result of the new Forest Policy, a commitment was made to enhance public awareness of lands managed by the department. A detailed colour Public Land Atlas was printed and made available through the J.F. Gaudet Tree Nursery. It was also made available online at www.gov.pe.ca/gis

Cavendish Farms Maps

In 2008 the department worked in conjunction with the Department of Agriculture and Cavendish Farms to improve grower awareness of buffer zones. All potato growers under contract to Cavendish were provided with hard copy maps of their properties indicating streams, wetlands, PEI Sloped Land Inventory and all applicable buffer zones. In return, personnel at Cavendish Farms ensured that they would monitor all their growers to ensure compliance of legislation.

Watershed Mapping/Alternate Land Use Systems

To improve the ability of Watershed Groups to manage their specific areas, the section agreed to provide mapping support to the various groups. Each group receives two large scale maps, one with land use and the other with orthomaps and property boundaries.

Livestock Mapping

The section continues to work with the Department of Agriculture to keep that department's Livestock Database current. The database contains details on all livestock producers across PEI. The details of the database will only be used at the Office of Public Safety in the event of an emergency disease outbreak.

Ecological Goods and Services

In association with the Department of Agriculture a computer model was generated to identify land eligible for monetary compensation under this program. This pilot project was focused on the Souris and Founds watersheds.

Soil Quality Monitoring

The section continues to provide yearly geographic support to the Department of Agriculture in generating a statistically based system for monitoring soil health.

Plantation Mapping

Plantations are mapped as they are established through a combination of GPS and GIS technology. This enables forest managers to keep track of all forest plantations and any followup activities or treatments.

IRAC

The section provides maps to IRAC indicating the presence or absence of the PEI High Sloped Land Inventory on specified properties.

Property and Land Use Maps

The section took over responsibility of creating hardcopy property maps from Provincial Treasury. Any member of the public requiring a property map now comes to RIMS.

Growth and Yield

Staff continued to measure forest growth and change through the continued assessment of Permanent Sample Plots (PSPs). More than 350 PSPs are located in a variety of forest types across the province and measured on a three-year cycle. Many of these plots are being measured for a seventh time, providing valuable detail on growth and change data that will be incorporated into the 2010 State of the Forest Report.

Plantation assessments are continuing to ensure planting quality (Year 0 assessments) and to monitor the early success and growth of plantations (Year 5, 10 and 15 assessments). This information will also be incorporated into the 2010 State of the Forest Report.

Ecosystem Management

Staff provided support to the MacPhail Woods Ecological Forestry Project and the Pisquid Watershed Project in the form of mapping, Geographic Positioning System expertise, forestry equipment, discussions on potential silviculture prescriptions and a review of draft Public Forest Land Management Plans for each property.

Under the new forestry policy, the department made a commitment to develop an Ecosystem-based Forest Management Standards Manual. Once a draft manual was completed, the standards and concepts were communicated to staff and the private sector for comments and proposed changes. Once finalized the manual was incorporated into forest management programs for public and private lands.

Old Growth

Participated in the Old Growth committee with the responsibility of research on the Old Growth topic in other jurisdictions and writing a preliminary policy with assessment procedures and definitions. Field tested the assessment procedures on various stand types.

Forest Statistics

Compiled forest statistics for the Provincial Forests and private land for the province. This information is stored in the National Forest Database in conjunction with the National Forest Information System.

Fish and Wildlife Section

Wildlife Conservation Fund

The Prince Edward Island Wildlife Conservation Fund (WCF) was created in 1998 to support conservation initiatives led by community-based groups. Money for the fund comes from a \$20 contribution made once per year by each licensed angler, hunter and trapper. The money raised through the Wildlife Conservation Fund (WCF) is distributed to wildlife conservation projects across the province following the review by the WCF Advisory Committee of submitted applications from groups and organizations. As of January 2006, the PEI Wildlife Conservation Fund is overseen by a committee composed of 10 members including:

- three representatives from the angling community,
- three representatives from the hunting community,
- one representative from the trapping community,
- one representative from community watershed groups,
- one representative of non-consumptive users such as birdwatchers and hikers, and
- one representative from the Department of Environment, Energy and Forestry.

Island Nature Trust serves as the day-to-day administrator of the Wildlife Conservation Fund, under the direction of the Wildlife Conservation Fund Committee.

In 2007, the PEI Wildlife Conservation Fund Advisory Committee approved funding for 23 projects totaling \$93,907. To see the complete report contact: Island Nature Trust, (902) 892-7513, wcf@isn.net.

Environment Futures Program

The Environment Futures Program (EFP) helps to educate high school and university students on the importance of wildlife protection and habitat enhancement. EFP employed 39 students in 2007. There were 10 crews consisting of three crew members and a supervisor, typically high school and post-secondary students returning to school. A competition and interviews were held for supervisor positions, with priority given to individuals enrolled in the fields of biology or environmental study. Crew members are provided through the Employment Development Agency.

The EFP has taken on a key role in improving wildlife habitat and overall environmental quality on Prince Edward Island. Our crews continue to work very closely with numerous organizations on the Island ranging from watershed enhancement groups to the Conservation Officers in our own department. This year, the 33 registered projects included educating the public, protecting and enhancing natural areas, improving wildlife habitat, cutting trails, taking out beaver dams and participating in the Island-wide Project Greenlight. The majority of our crews were involved in helping out with different research projects. The various research projects exposed our crews to multiple aspects of environmental conservation and restoration. The objective was to encourage the EFP members with environmental interests to pursue related fields and also to instill an appreciation and respect for the outdoors.

Protected Areas

In late 2005, the *Natural Areas Protection Act* (NAPA) was amended to require public consultation prior to designating lands as Natural Areas under the act. It was also changed to permit the de-designation of public lands designated as Natural Areas following a

consultation process. Grounds for de-designation include loss of the feature for which land was protected or the wish of the local community to develop the designated lands.

No lands were designated or de-designated in the reporting period; however, 143 acres at Basin Head were acquired for the purpose of designation under NAPA while riparian areas and wetlands totaling 47 acres were purchased for consolidation into existing Wildlife Management Areas.

The department continued its representation on the Basin Head Lagoon Ecosystem Conservation Committee. The designation of the Basin Head Lagoon Marine Protected Area was formalized in 2005 under the federal *Oceans Act*.

Accord for Protection of Species at Risk

The Forests, Fish and Wildlife Division continued to participate in national processes under the Accord for the Protection of Species at Risk. The publication *Wild Species 2005: The General Status of Species in Canada* became available online in 2006 at www.wildspecies.ca. It incorporates the work of knowledgeable experts and volunteers in Prince Edward Island and across Canada to assign status ranks to species in the country.

Species groups included for Prince Edward Island and numbers (bracketed) are vascular plants (1052), freshwater mussels (2), tiger beetles (5), odonates, e.g. damselflies and dragonflies (66), fishes (27), amphibians (10), reptiles (3), birds (337) and mammals (35). The coarse evaluation of risk for the 1,537 species indicated the following:

1. Extirpated: 12 (<1%)
2. Extinct: 1 (<0.1%)
3. At Risk: 3 (<0.1%)
4. May be at Risk: 208 (14 %)
5. Sensitive: 99 (6%)
6. Secure: 607 (39%)
7. Undetermined: 80 (5%)
8. Not Assessed: 2 (<0.1%)
9. Exotic: 375 (24%)
10. Accidental: 150 (10%)

In 2007, assigning status to 60 species of PEI butterflies was facilitated by assembling over 850 species records in cooperation with the Atlantic Canada Conservation Data Centre, New Brunswick Museum, University of Prince Edward Island and Agriculture Canada.

As endangered species legislation is implemented in Canada, the division participated in the spring meeting of the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and reviewed the degree of endangerment of 43 species of wildlife including two birds that occur in PEI, the Common Nighthawk and the Red Knot. These birds were listed as Threatened and Endangered respectively by COSEWIC.

The province continued to support conservation programs for the endangered piping plover on Island beaches and participate in the Piping Plover Recovery Team for the *melodius* subspecies.

The division contributed information and support to the Maritimes Breeding Bird Atlas, a five-year project to document the distribution and relative abundance of breeding birds. The first Atlas was completed in 1990.

Wood Harvest on Provincially Owned Land

No commercial harvest activity occurred on wildlife management lands in 2007. Lumber was harvested from provincial wildlife management areas and used to repair fishways and boardwalks on provincial land.

Sand Dune Restoration

In October of 2007 provincial staff with assistance of volunteers from Island Nature Trust completed restoration of a dune at Miminegash Harbour by planting 12,500 plants. The result was an outstanding growth of marram grass and a stabilized dune.

Eastern Habitat Joint Venture

This program focuses on the protection, restoration and enhancement of wetland habitats within the province. An important component of the Eastern Habitat Joint Venture Stewardship Program (EHJV) continues to be to work with the agricultural community to remedy the detrimental impact of farming practices on the Island's streams and wetlands. Direct financial assistance from EHJV partners has been provided in past years in support of agricultural soil conservation projects and fencing livestock from watercourses and wetlands, for example. These types of projects are currently funded through the Canada-Prince Edward Island Stewardship Program (CPEISP), as are Constructed Wetlands and Agricultural Wetland Restoration projects designed to enhance or restore wetlands associated in the agricultural landscape. Ducks Unlimited Canada is the lead agency in delivering the wetland enhancement component of the CPEIS, which includes Farm Pond Construction, Rural Biodiversity and Wetland Restoration Programs.

The EHJV also acquires wetland properties, often in support of the Provincial Protected

Areas and Biodiversity Conservation Program. Ducks Unlimited Canada and the Nature Conservancy Canada partner with the FFW Division in this activity. One 24-hectare property, with 9.7 hectares of fresh water marsh and 11.7 hectares of associated upland habitat, was acquired in 2007.

Wildlife Population Assessment and Habitat

Status of Wildlife

Waterfowl breeding pairs and brood surveys were conducted in 2007. These surveys provide an annual index of waterfowl production for wetlands across the province and supply essential data for regulatory management decisions. Annual spring breeding pair counts have shown a stable to increasing population trend from 1995 through 2006.

Weekly surveys of wintering waterfowl were conducted on 33 sites in January and February. Results provide an index to changes in numbers, species composition and distribution of wintering waterfowl. Survey results are given in Figure 1 (page 35).

Efforts were also directed at banding locally produced ducks with the assistance and co-operation of the Canadian Wildlife Service. Waterfowl banded in the summer of 2007 included black ducks, blue-winged teal, green-winged teal, American widgeon and mallard. Three hundred fifty-three black ducks and mallards were banded during the winter. The spring Canada goose banding program continued in 2006, using rocket nets to capture the birds. Bald Eagles were banded, in a continuing effort to gain information on migration patterns and mortality factors for eagles raised at Island nest sites.

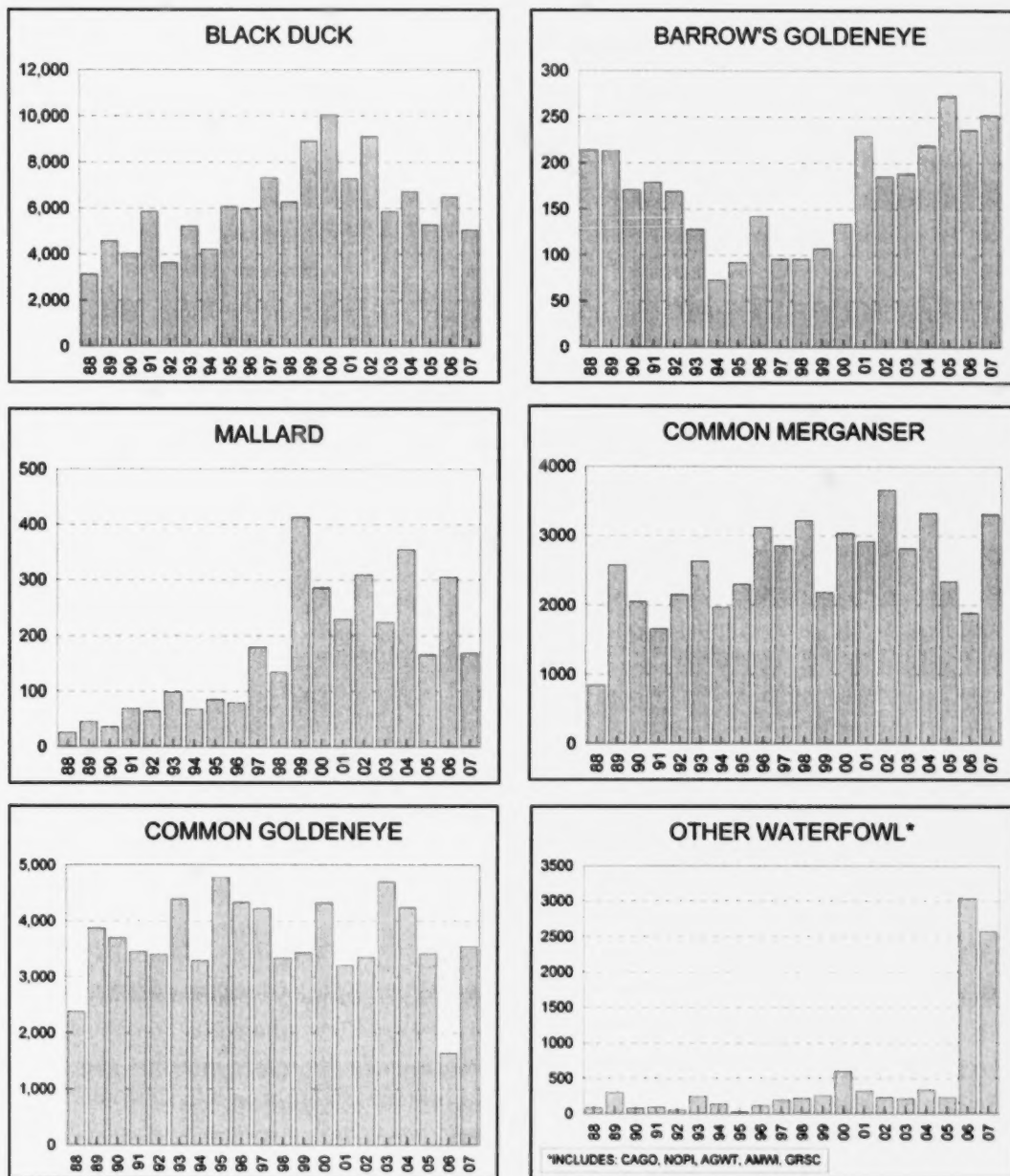
The November Canada goose aerial survey program continued in 2007 in co-operation with the Canadian Wildlife Service. The count was low and represented a decline of 34 per cent from the 10-year average. Black Ducks counted during the survey increased from the previous year and were on par with the previous 10-year average. During the survey, 19,641 Canada Geese and 14,613 Black Ducks were observed.

In 2007 the province continued to partner with the Island Nature Trust in the Bald Eagle Guardian Program. This complements the Adopt an Eagle Program and allows interested people to provide scientific information to the Fish and Wildlife Section and monitor the nests for success and human disturbance.

Other wildlife surveys conducted during 2007 included the Cormorant nest counts, Woodcock singing ground survey, and the annual monitoring of the wild fur industry.

Figure 1: Total maximum waterfowl counts at 33 winter survey sites by species.

Total maximum counts at 33 winter surveys sites by species



Wildlife Management

Two trappers were hired from April to October to mitigate highway beaver problems across the Island. This reduced beaver problems, saved the Department of Transportation and Public Works valuable machine time and resulted in improved beaver management.

The division continued to work with the Department of Agriculture, the Sheep Breeders Association and the Federation of Agriculture in dealing with problems associated with coyotes. The division continued to monitor the population status, reproduction, food habits and annual harvest. As well, efforts continued to educate the general public on dealing with coyotes.

Geographic Information System

As part of the Corporate Land Cover and Land Use Inventory (2000), the Fish and Wildlife Section continued to update the Wetland Inventory in the Government Geographic Information System (GIS). The section continued to maintain and improve other resource layers and develop more effective means of delivering GIS products within the department, interdepartmentally and externally.

The need to improve the accuracy of both the watershed and hydrographic (watercourse) layers is a priority. Most Government resource agencies, as well as numerous community groups concerned with watershed management, use the watershed and hydrographic layers to develop watershed management plans, calculate soil erosion risk indices, develop groundwater models, produce buffer zone calculations, etc. More precise layers are needed to meet these objectives. Both the watershed and watercourse layers are being updated.

The Forests, Fish and Wildlife Division is represented on both the GIS Co-ordinating Committee and the GIS Technical Committee which serve to develop and implement a policy framework for creating and distributing Government GIS data.

Firearm Safety/Hunter and Trapper Education

Under a five-year contract signed in 2003, the Forests, Fish and Wildlife Division subcontracts the delivery of the Canadian Firearms Safety Course to the PEI Wildlife Federation. The PEI Wildlife Federation delivers both the federal non-restricted and restricted firearms safety courses.

In 2007, 13 volunteer Canadian Firearms Safety Course instructors provided training and testing for approximately 500 people taking the non-restricted and the restricted firearms safety courses. (Non-restricted refers to long guns, for the most part hunting rifles and shotguns. Restricted refers to mostly to handguns, used by target shooters and law enforcement officers.) Most of the restricted firearm students were from the Atlantic Police Academy program. The division also monitors the delivery of the training, maintains a file system for clients who have completed the Canadian Firearms Safety Course Training, maintains an inventory of firearms used for training, and co-operates with the Provincial Firearms Office and the Atlantic Police Academy.

The PEI Wildlife Federation is also responsible for the delivery of the provincial Hunter Education training. In 2006, the Hunter Education Program was delivered to approximately 100 students. There are 20 qualified Hunter Education volunteer instructors although only eight were active this year. The Forests, Fish and Wildlife Division

maintains the legislative requirements to issue Firearms Safety Certificates required by all hunters.

A Bow Hunter course was held this year with six students. Bow hunters require this special course if they wish to hunt using a bow in other provinces. The department worked co-operatively with the Prince Edward Island Traditional Archery Association to encourage more hunters to try bow hunting.

A youth exchange was completed in partnership with Nova Scotia. A young person from O'Leary was given the opportunity to go salmon fishing in Newfoundland with her aunt and a youth and his father from Newfoundland and Labrador were given the opportunity to hunt in Prince Edward Island. In addition they were supplied with hunting gear from a variety of sponsors.

Trapper education is required for all first-time trappers. Training is conducted jointly by the department and the Prince Edward Island Trappers Association. Nine students received training in 2007 at courses held in Southampton and Wellington. Advanced trapper training courses were offered to all licensed trappers during 2005, 2006 and 2007. The mandatory course covered snare construction, snaring techniques, dog-proofing snares and traps, under-ice sets for Beavers and recent advances in humane trapping. All told, 132 licensed trappers received the advanced training. This represents virtually all active trappers in PEI.

Freshwater Fisheries Section

Regulations

In 2007 a new combined Angling/Hunting Licence was introduced. The development of this licence is the first step toward reducing the number of licences that anglers and hunters require in their possession.

Recreational Fisheries Policy

The Recreational Fisheries Advisory Committee was requested to solicit public input into the development of a Recreational Fisheries Policy. A discussion paper was prepared to provide background on six core issues: angler recruitment, access, habitat restoration and land use, stocking, regulations and future threats. These issues have been identified by anglers themselves, as well as through a number of existing publications and recommendations. In January 2008, the Recreational Fisheries Advisory Committee held a series of public meetings across the province to solicit input on what topics should be addressed in the new policy. Meetings were held in Charlottetown, Montague, Souris, Summerside and O'Leary. In addition, comments could be sent directly via the internet. A report will be submitted in 2008.

Monitoring and Assessment

All index rivers (Mill River, Little Trout River (Richmond), Wilmot River, West River, Morell River and Souris River) were electrofished to determine salmonid populations for long-term monitoring.

An angler creel survey was carried out for opening day on the Morell River (April 15). Ninety-six anglers were surveyed and a total of 199 brook trout were measured. The average length of brook trout was 31 cm. Scale samples

were collected from a number of fish during the survey.

The division continued to collect fish in selected areas for analysis of mercury as part of a joint initiative with the New England Governors and Eastern Canadian Premiers Mercury Task Force. Fish were sampled from O'Keefe's Lake, with testing completed at Environment Canada's Environmental Quality Section Laboratory in Moncton, New Brunswick. The health advisory regarding consumption of fish from O'Keefe's Lake remains in effect. The division will continue to monitor mercury levels in fish from selected areas of Prince Edward Island on an annual basis.

Fish Stocking

No fish were stocked into Island rivers in 2007. A proposal for fish stocking was developed and the Department of Environment, Energy and Forestry, Department of Fisheries and Oceans and PEI Wildlife Federation contracted Dover Fish Hatchery Ltd to produce fish to implement the stocking proposal. Two years of funding was secured. The proposed stocking plan has four elements; brook trout for restocking following fish kills or other catastrophic events, brook trout for family fishing days and stocking of ponds, Atlantic salmon enhancement and rainbow trout stocking for winter ice fishery. In support of this initiative brood stock was collected in 2007.

Fish Kill Investigation

Two major fish kills occurred in the summer of 2007. These were the east branch of the Tryon River and the main stem of the Dunk River. The Environment Canada weather station in Maple Plains recorded 66.4 mm of precipitation between July 19 and July 22, 2007 with the majority (38.8 mm) falling on July 20, 2007.

Pesticides were detected in samples taken following both fish kills. While the levels were low, the fish were dead for at least two days before the sampling began and the amount of pesticide in them may have degraded in that time.

The 2007 fish kill on the Dunk River was extensive, with considerable loss of fish over a 13-kilometre length of stream. The fish kill on the Tryon River was also extensive, with considerable loss of fish over a five kilometre length of stream. Assuming that there will be no other fish kills on either the Tryon River or Dunk Rivers, it should take five to six years for fish populations to recover.

Angler Participation

The Family Fishing Weekend was once again held during the long weekend in May. In support of this venture, no angling licence was required to fish from May 18 to 21, 2007.

Wildlife Conservation Fund

The Prince Edward Island Wildlife Conservation Fund (WCF) was created in 1998 to support conservation initiatives led by community-based groups. Money for the fund comes from a \$20 contribution made once per year by each licensed angler, hunter and trapper. The money raised through the Wildlife Conservation Fund is distributed to wildlife conservation projects across the province following the review by the WCF Advisory Committee of submitted applications from groups and organizations. As of January 2006, the PEI Wildlife Conservation Fund is overseen by a committee composed of 10 members including:

- three representatives from the angling community,

- three representatives from the hunting community,
- one representative from the trapping community,
- one representative from community watershed groups,
- one representative of non-consumptive users such as birdwatchers and hikers, and
- one representative from the Department of Environment, Energy and Forestry.

Island Nature Trust serves as the day-to-day administrator of the Wildlife Conservation Fund, under the direction of the Wildlife Conservation Fund Committee.

In 2007, the PEI Wildlife Conservation Fund Advisory Committee approved funding for 23 projects totaling \$93,907. To see the complete report contact: Island Nature Trust, (902) 892-7513.

Impoundment Management

Management activities continued at a number of impoundments across the province. Arsenault's Pond in Egmont Bay again received considerable attention in 2007 with the completion of Phase II. A new concrete water control structure was constructed, fish ladder baffles were constructed and the water level was restored to original operating levels. The deteriorated wooden structure at Murrays Pond in Breadalbane was decommissioned and the site stabilized in the interest of public safety. Phase I of major renovations to Leards Pond in Coleman commenced in 2007. A large area of accumulated sediment was excavated in the pond basin as a first step towards enhancing the quality of fish habitat.

Pollution Prevention Division

Mandate

The Pollution Prevention Division has a mandate to promote the protection and responsible stewardship of our environment and natural resources. This includes responsibility for quality of our air, water, soil and natural habitat; assessing the impact of undertakings on human health, animal health and the environment; and the management of pesticide use in the province. Activities which help promote public acceptance of responsibility for the environment and sustainability of our natural resources are included in this mandate.

Overview

The Pollution Prevention Division administers a wide range of programs, legislation and activities which are designed to protect the quality of water, soil, air and landscape in the province. The activities include measures to preserve, control or enhance: outdoor air quality, the ozone layer, climate change factors, noise, solid waste management, management of hazardous waste, litter, excavation pits, unsightly properties, automobile junk yards, beverage containers, pesticide use, petroleum storage tanks, used motor oil, tires and special projects. Promoting pollution prevention and environmental stewardship, and educating all Islanders on responsible environmental practices are key initiatives of the division. Staff participate on a number of provincial, regional, national and international committees regarding pollution prevention, air quality, climate

change, noise, pesticide use and management of waste and toxic substances.

The division is responsible for the following legislation and regulations.

- *Environmental Protection Act*, particularly Sections 9, 20 and 24
 - Air Quality Regulations
 - Ozone Depleting Substances Regulations
 - Excavation Pits Regulations
 - Lead Acid Battery Regulations
 - Litter Control Regulations
 - Used Oil Handling Regulations
 - Petroleum Storage Tanks Regulations
 - Waste Resource Management Regulations
- *Pesticides Control Act*
 - Pesticide Control Regulations
- *Automobile Junk Yards Act*
- *Unsightly Property Act*
 - Unsightly Property Regulations

Air Quality and Hazardous Materials Section

Petroleum Storage Tank Program

Petroleum hydrocarbon products are by far the most commonly used hazardous materials in the province and are an essential component of our Island economy. The department continues to lead the country in preventive efforts to avoid petroleum spills, and in using the most up-to-date science to determine the necessary

corrective action when petroleum spills do occur.

On the preventive side, the Petroleum Storage Tank Program focused on the handling and storage of petroleum products according to the provisions and regulations of the *Environmental Protection Act*. In 2007, there were 17 underground storage tank spills compared to 167 in 1992 (when the program became fully active); and 148 aboveground home heat tank spills (38 of five litres or less) compared to 293, 162, 191, 179, 146 and 132 spills in 2001, 2002, 2003, 2004, 2005, and 2006.

In 2007 the Home Heat Tank Program continued its focus on educating the public on potential environmental and groundwater contamination associated with spills from small capacity fuel oil storage tanks. The program also increased its efforts to ensure as many tanks as possible were inspected and tagged prior to the September 1, 2007, deadline. By December 31, 2007, more than 44,974 home heat tank systems had been inspected, tagged and registered with the department.

Atlantic Canada Harmonized Approach on Petroleum Contaminated Site Management

The division continued its participation in the Atlantic Partnership in Risk Based Corrective Action Implementation (RBCA). This group has a mandate to develop and maintain the technical tools required to manage the risk-based corrective action process, harmonize the management processes and best practices among the four provinces, and manage implementation within the region. Members of Atlantic PIRI include regulators from the environmental protection departments of the four Atlantic Provinces, representatives from Environment Canada, the national petroleum

industry, and regional environmental and communications consultants.

The Atlantic RBCA software tool is used in conjunction with the management processes developed by each province. Together, these tools are designed to facilitate the cleanup of sites, by providing clear guidance that is responsive to local conditions. In 2007, the *User Guidance Documentation for Atlantic RBCA v2* was updated to include the Soil Vapour and Indoor Air Intrusion Guidance.

To ensure site professionals optimize the application of the Atlantic RBCA tools, Atlantic PIRI had in the past provided "hands-on" instruction to professionals in the Atlantic region. In 2007, Atlantic PIRI initiated the development of an online training program that will bring education about the Atlantic RBCA toolkit to practitioners everywhere in the world. Atlantic PIRI established a partnership for development of online training for the Atlantic RBCA software.

In 2007, 91 reported spill files were closed where contaminated soil removal had effectively remediated the impacts from the loss of petroleum products. At sites where the impacts were more extensive, it was necessary to obtain additional technical information to plan appropriate remedial action. Environmental consultants completed Environmental Site Assessments (ESAs), and assessed soil and groundwater to determine the full extent of the spills. In 2007, 31 spill files were closed where ESAs were completed.

In 2007, 88 petroleum contaminated sites were monitored with departmental staff either supervising the on-site cleanup procedures or monitoring a consultant's remedial actions to ensure that the cleanup took place in a timely manner and to a level that protected both human health and the environment.

Phase I ESAs are commonly required by purchasers or the purchaser's lending institution, although they are not required by the department. The division has been involved since April 1997, in searching records for past activities on a property that could be interpreted as contributing to existing contamination, and monitoring remediation efforts. In 2007, 987 Environmental Records Review Requests were completed.

The section continued its participation in the following provincial, regional, national and international programs.

- National Air Pollutant Surveillance (NAPS) Program (federal/provincial)
- Emissions and Projections Working Group (federal/provincial)
- National Pollutant Release Inventory (NPRI) Work Group (federal/provincial)
- Air Management Committee (federal/provincial)
- Air Quality Health Index Management Committee (federal/provincial)
- Atlantic Region Air Issues Team (regional – federal/provincial)
- Air Quality and Acid Rain Steering Committee (regional – Atlantic Canada/New England States)
- Real-time Monitoring Work Group (regional – Atlantic Canada/New England States)
- Canadian Council of Ministers of the Environment, Canada-wide Standards on Mercury (federal/provincial)
- Atlantic PIRI [Partners in (Risk-based Corrective Action)] Implementation
- Children's Secretariat on Healthy Child Development (provincial)
- Federal-Provincial Working Group on Ozone-Depleting Substances and Halocarbon Alternatives
- Mercury Task Force (regional – Atlantic Canada/New England States)
- CSA B-139 Technical Committee on the Installation Code for Oil-Burning Equipment - Federal/Provincial/Industry

National Air Pollutant Surveillance (NAPS) Program

Ambient air samples collected at Charlottetown, Wellington and Southampton NAPS stations provide information to the province and Environment Canada on ground level ozone, sulphur dioxide, nitrogen oxides, mercury, particulate matter and acid rain levels found in the local air. Eighty per cent of the installed equipment operates continuously and sends data hourly to a central computer in Charlottetown for processing and distribution to our partners.

In 2007, the relatively old ozone analyzer that had been operated in Wellington in partnership with Environment Canada, was taken out of service. It was replaced by a new unit, run solely by the Province.

The Air Quality and Hazardous Materials Section continued to provide data for the Air Quality Forecast Program (formerly the Smog Forecast Program launched in June 2000) in partnership with Environment Canada, the Prince Edward Island Department of Health, and the PEI Lung Association. Environment Canada issues the forecast twice a day, at 5 a.m. and 4 p.m., from May 1 until the end of October, and it can be accessed by telephone in each of the three counties, at the Environment Canada website, and from a link at the Department of Environment, Energy and Forestry website. It is a two-day prediction of expected levels of ground-level ozone and fine particulate matter.

Current Air Quality Monitoring Equipment Distribution		
Location	Equipment	Sample Frequency
Charlottetown	Ground level ozone	Continuous
	Sulphur dioxide	Continuous
	Nitrogen oxides	Continuous
	Fine particulate matter (PM _{2.5})	Continuous
Southampton	Mercury	Continuous
	Acid rain	Triggered by precipitation events
	Ground level ozone	Continuous
	Nitrogen oxides	Continuous
	Fine particulate matter (PM _{2.5})	Continuous
	Fine particulate matter (PM _{2.5}) – 6 day sample, reference standard	Every 6 th day
Wellington	Ground level ozone	Continuous
	Nitrogen oxides	Continuous
	Fine particulate matter (PM _{2.5})	Continuous

Annual emissions testing at the PEI Energy Systems incinerator showed good results, although mercury was slightly above the allowable maximum.

Mercury and Fish

Sampling of fish from O'Keefes Lake for mercury contamination continued in 2007. The results were again shown to be a concern. Half of the fish sampled had mercury levels above Health Canada's maximum allowable limit of 0.50 mg/kg and for the first time the average mercury content was above the guideline at 0.53 mg/kg.

The following table illustrates key statistics for air quality and hazardous materials.

Type of Review	2007 Key Statistics
Inspections of refrigeration/air-conditioning equipment at landfills	3,694
Recovery of ozone depleting substances from landfills	3,498 units with 565 kg of ODSs recovered
Investigation of petroleum spills	285
Removal of underground petroleum storage tanks	52
Recorded home heat tank/storage tank spills	148
Records Review Requests	987
Registered generators of hazardous waste*	454
Shipping manifests processed	906
Hazardous Waste shipped for disposal/recycling	2,498,630 kg
Import of lead-acid batteries to the province	25,888
Recovery of lead-acid batteries for recycling out-of-province**	19,420 (75% recovery)
Number of after-hours calls received by the Environmental Emergency Response Team	111

*The *Transportation of Dangerous Goods Act* requires that generators of hazardous waste register with the department and provide information about the types and quantities of wastes generated.

**Lead-acid batteries can represent a threat to groundwater as their components have the potential to leach into soil. With the development of the lead-acid battery recovery program, attempts to reduce the risk have been highly successful.

Climate Change

Pollution Prevention maintains responsibility for climate change and greening of Government activities and programs Government-wide. Staff coordinate and participate in climate change activities throughout the province, monitor compliance with provincial commitments (including the New England Governors and Eastern Canadian Premiers Climate Change Action Plan), and represent the province on national and regional committees.

Climate Change Strategy

Based on the recommendations contained in *A Climate Change Strategy for Prince Edward Island*, a report of the Special Committee of the Legislature on Climate Change, a new Climate Change Strategy was finalized.

New England Governors and Eastern Canadian Premiers

Prince Edward Island is a member of the Conference of New England Governors and Eastern Canadian Premiers and a signatory of the Climate Change Action Plan (2001). Pollution Prevention staff have been working with other members of the Climate Change Steering Committee to implement initiatives of the Climate Change Action Plan, including the Energy Dialogue – Renewable Energy and Energy Efficiency held in Charlottetown and a College Greening forum.

Climate change progress reports were also compiled in preparation for the 31st Conference of the New England Governors (NEG/ECP) and Eastern Canadian Premiers. This meeting was held on PEI in Brudenell in June 2007

PEI continued to work cooperatively towards the goals and objectives of the NEG/ECP. In order to reduce its greenhouse gas emissions in cooperation with its regional partners, the

following Climate Change activities were reported at the 31st Conference of the NEG/ECP in June 2007:

- An Energy Dialogue on Renewable Energy and Energy Efficiency was conducted in Charlottetown, PEI, in October 2006 producing action items that were incorporated in recommendations to ministers and commissioners at the Quebec City Summit.
- Transportation Solutions to Climate Change forum took place in Portland, Maine, to discuss possible regional and state/provincial initiatives that could take place to reduce GHG's with the transportation sector.
- A Ministerial Forum was hosted on Energy and the Environment that put forward recommendations towards reducing climate change focusing on the following areas: energy efficiency, renewable energy, and energy trade and transportation.
- Greening Campuses Forum on Best Practices was conducted in Moncton, New Brunswick, to learn about means of reducing energy costs, lowering greenhouse gas emissions and promoting overall environmental sustainability on university and college campuses.
- In March 2007 the states involved in the Eastern Climate Change Registry (developed in 2003) agreed to combine this effort with a larger initiative called The Climate Registry (TCR). The six New England States along with the Canadian Provinces and Mexican States did become members of TCR in 2007. The TCR serves as a common system for GHG emission records that supports GHG emissions reporting and education policies and provides an accurate, complete, consistent, transparent and verified set of data, supported by a robust accounting and verification infrastructure.

Energy Efficiency

The Office of Energy Efficiency (OEE) was launched in January 2008. The OEE delivers program initiatives that reduce energy consumption and greenhouse gas emissions (GHG's). Over the next 10 years the program is expected to achieve a GHG reduction of 150,000 tonnes.

Energy efficient lighting campaigns, including *A Bright Idea* (2006), greenlight! (2007) and school CFL fundraising are reducing GHG emissions by over 40,000 tonnes each year.

The number of people utilizing the Charlottetown Transit system continued to increase with a maximum monthly ridership of 14,509 reached in September 2007.

Renewable Energy

About 15 per cent of all electricity used in the province was currently generated by renewable energy sources. This was a legislated target for 2010 that was already met in 2007.

Environmental Assessment Section

The Environmental Assessment Section deals with proposed developments which may qualify as "undertakings" as defined in the *Environmental Protection Act*. In addition, the section co-ordinates the subdivision environmental review process for provincial and municipal authorities, and administers the Waste Resource Management Regulations, the Excavation Pits Regulations, the *Unsightly Property Act*, the *Automobile Junkyard Act* and the *Litter Control Act*.

The Environmental Assessment Section becomes aware of potential undertakings either through referrals from other Government departments or through direct application by a proponent. On receipt, potential undertakings are screened to determine if approval under Section 9(1) of the *Environmental Protection Act* is required. If the project meets the definition of an undertaking, it is registered and the approval of the Minister is ultimately required before it may proceed. If the project is not considered an undertaking but there are environmental issues that may need to be addressed by the proponent, it is considered a referral and conditions for mitigation are typically applied to a Building Permit or other required Government approval process.

Registered Undertakings

In 2007/2008, a total of eight undertakings were approved by the Environmental Assessment Section. The variety of projects included:

- Marine terminal development
- Mushroom growing facility
- Portable ready mix concrete plant
- Natural gas exploration (2)
- Biogas facility
- Radio Communications Tower
- Manure storage facility

Interdepartmental Approvals

Each year the department examines and assesses a large number of referrals from the Department of Communities, Cultural Affairs and Labour. These referrals can include sand and salt storage facilities, sewage lagoons, correctional facilities, summer camps and temporary camp-sites, multiple-unit developments (cottages, apartments, senior complexes), etc.

In 2007/2008, there was a total of 205 interdepartmental approvals processed by the EA Section which included:

Agricultural	57
Commercial	16
Site suitability (Buffers, sensitive features, etc.)	109
Fisheries related	6
Miscellaneous	17

The Environmental Assessment Section also carries out reviews of various proposed subdivisions from across the province.

In 2007/2008, 117 Subdivision Applications were reviewed.

50+ Lots	1
20 to 49 Lots	8
6 to 19 Lots	26
2 to 5 Lots	82
Total	117

Excavation Pits, Automobile Junk Yards and Unsightly Properties

The inspection and permitting of landfill sites, construction and demolition sites, recycling facilities, excavation pits and automobile junk yards are other important functions of the Environmental Assessment Section. Ensuring that these types of facilities are operating in compliance with their respective legislation is particularly important for the protection of groundwater and surface water resources.

In 2007/2008, a total of two composting facilities, 53 recycling facilities, one landfill facility, five construction and demolition facilities, 295 licensed pits and 54 automobile junk yards were on file with the department.

Over the course of the year, most of these were inspected by section staff.

As well, numerous inspections of properties were carried out by environment officers under the *Unsightly Property Act* in 2007/2008. Many of these properties required repeated visits and/or follow-up inspections in an effort to have problem areas addressed with the co-operation of the property owner.

Pesticide Regulatory Program

The Pesticide Regulatory Program maintains responsibility for administration of the *Pesticides Control Act* and regulations. This includes the review and update of legislation, licensing of commercial pesticide applicator and vendor businesses, certification of private pesticide applicators, and the issue of pesticide application permits.

Legislation

New *Pesticides Control Act* regulations, designed to safeguard human health and protect the natural environment of the province were approved by Executive Council in late December 2005. Designed to safeguard human health and protect the natural environment of the province, these regulations require the licensing of pesticide vendor and applicator businesses; instate mandatory certification of private and commercial applicators, as well as vendor sales personnel; introduce new loader/mixer and applicator categories; lower allowable wind speeds for the application of pesticides; and establish restrictions on the transport and storage of pesticides.

In early 2007, additional regulations were approved to address the display, storage and sale of domestic pesticides within the province.

Based on a model developed by the Province of Quebec, these regulations became effective on March 1, 2007. Domestic pesticides were separated into self select (lower risk) and controlled purchase (higher risk) categories, and licensing and certification requirements were introduced for vendors wishing to sell controlled purchase products.

Licensing and Certification

The numbers of Pesticide Applicator Business Licences held in 2007 are as follows:

Agricultural	2
Landscape	7
Structural	6
Biting Fly Control	2
Structural Fumigation	2

For the first time, seven licences were issued in the new Seed/Seed-piece Treatment category. All of these allowed for the commercial, pre-plant treatment of cereal grains.

Across the province, 25 vendor companies held a Non-domestic Pesticide Vendor Business Licence. Twenty-one Domestic Pesticide Vendor Business Licences were issued.

Training sessions were offered for a number of applicator certification categories, specifically Class D (seed treatment) and Loader/Mixer. Over 125 individuals completed training and certification appropriate to the sale of controlled purchase domestic pesticides. At present, over 2,800 people hold private pesticide applicator certificates.

Introduced in 2003, the PEI Pesticide Re-certification Continuing Education Credit (CEC) Program allows certified, private agricultural pesticide applicators to renew their certification by participating in approved, continuing education events. Almost 600 individuals currently participate in the CEC Program, now administered by the PEI Department of Agriculture.

Pesticide Application Permits

The number of permits issued for biting fly control (27) was down some 23 per cent from 2006. One permit was issued for the control of algae in a freshwater pond. Three Schedule 1 Permits (covering 65 hectares) were approved for the application of a soil fumigant.

Water Management Division

Mandate

The Water Management Division is responsible for the sustainable management, protection and enhancement of the province's drinking water, groundwater, inland surface water and coastal estuaries. The division regulates water and sewer infrastructure and assists in the administration of funding that supports this infrastructure. It also provides water testing services (microbiological and chemical) and engineering advisory services to the public, other provincial departments and agencies, industry and municipalities; and is responsible for conducting baseline monitoring and assessment of the province's water resources.

Division Overview

The Water Management Division consists of three sections: Drinking Water Management, Watershed Management, and Prince Edward Island Analytical Laboratories.

The main responsibility of the Drinking Water Management Section is to ensure sustainable management, protection and enhancement of drinking water and wastewater systems. The key program areas include:

- Drinking water quality monitoring programs
- Water and wastewater servicing
- Licensing programs for contractors
- Pilot program for on-site sewage disposal system approvals
- PEI Bio-Solids Strategy

The Watershed Management Section is responsible for the management of groundwater, inland surface waters, and coastal estuaries. The section recognizes the watershed as a principal unit of assessment, and that the quality and quantity of ground and surface waters are intrinsically related. The specific program areas for the section include:

- Groundwater quantity assessments
- Watershed management
- Water quality and quantity programs
- Publication of groundwater and surface water quality and quantity information
- Development of educational materials
- Public education and information sessions

The Prince Edward Island Analytical Laboratories is responsible for the management of the province's water microbiological and water chemistry laboratories. As a result of the co-operative arrangement between the Department of Agriculture and the Department of Environment, Energy and Forestry, a single lab manager is responsible for the day-to-day activities of the labs under the PEI Analytical Laboratories. The programs areas include:

- Drinking water quality analyses
- General water quality analyses for ground and surface waters to determine the health of water for interests including aquatic habitat, the fishery, recreation and aesthetics
- Wastewater programs
- Accreditation initiative with the Standards Council of Canada

Drinking Water Management Section

The most significant occurrence for the Drinking Water Management Section was the extension of regulations brought in January 2005, governing the operation of central water supply and wastewater treatment systems in the province to include privately operated systems. The regulations prescribe requirements for system classification, operator certification and monitoring and public reporting requirements.

In addition, a pilot program was launched for a new approach to the approval of on-site sewage disposal systems. This program involves the training of a select group of licensed sewage disposal contractors in site suitability assessments and allows them to register site suitability assessments and proposed system designs without the need to apply for the traditional sewage disposal permits, with the intention of streamlining the approval process, and building more technical capacity within the industry. A total of 17 contractors were recruited for the pilot program, and underwent training to obtain their site assessors licences through two sessions held through Holland College in the spring of 2007. During the year approximately 50 per cent of on-site sewage systems installed in the province were done under the pilot program, and of these systems, 50 per cent of the site suitability assessments were conducted by pilot program contractors, the remainder of assessments being conducted by Government staff or the consulting sector.

As part of these efforts, as well as to provide continuing educational opportunities to the industry as a whole in issues relating to the construction of on-site sewage disposal systems, through meetings at various locations across the province.

Staff were increasingly involved with such activities as soils assessments for on-site sewage disposal suitability, providing advice on remedies for failed septic systems, as a result of greater involvement in on-site sewage disposal issues.

The Drinking Water Management Section continued to investigate water quality problems in 2007-2008. The majority of problems related to private wells, although some problems with small privately owned central water supplies were addressed as well. In many cases, these have been in recurring problem areas, often associated with older cottage subdivisions characterized by dense development on small lots with individual on-site sewage disposal systems.

The section continued to investigate cases of E.coli contamination, including the procedures for the notification of local residents of the affected area that a groundwater investigation was being undertaken and also provided assistance with sampling activities related to the department's pesticide monitoring program.

The Water Management Division is responsible for administration of Section 13 of the *Environmental Protection Act* which requires ministerial approval for design, construction, operation and maintenance of all water supply and wastewater treatment and collection systems. In 2007-2008, a total of 49 Certificates of Approval were issued, with a value of work estimated to be approximately \$13,600,000. With the extension of Drinking Water and Wastewater Facility Operating Regulations to privately operated systems, there had been an increased demand for certified system operators. The section continued to be involved in development and certification of water and wastewater system operators with exam sessions

being held two times during the year, and 42 candidates for certification exams. There are currently approximately 85 certified operators in the province.

The division continues to provide technical support representing both Provincial and Federal Government interests in several major projects including the Charlottetown and the Summerside wastewater treatment plants, the Stratford water and sewer expansions and the Bio-Solids Management Strategy.

Five Groundwater Exploration Permits and four Groundwater Extraction Permits were issued in 2007-2008, significantly down from many other years. This trend is due in part to the moratorium established on the construction of new irrigation wells. As an important part of its activities, the Drinking Water Management Section conducts research on various topics of importance related to drinking water. The section continued to assist with the implementation of an expanded pesticide monitoring program. Results of this work have been similar to previous surveys, with detections being rare, and where there have been detections, concentrations have been low compared to health guidance values.

Section staff continued collaborative research on nitrogen species in groundwater as part of a multi-disciplinary project led by the Geological Survey of Canada and Agriculture and Agri-food Canada. Work initiated in 2007 built on previous studies in the Wilmot Watershed, and involved new investigations at Harrington Experimental Farm and the Earnscliffe Peninsula.

Watershed Management Section

The Watershed Management Section administers the Watershed Management Fund (WMF) that provides technical and financial assistance to community watershed organizations who are working on watershed restoration and/or watershed planning.

In 2007, 28 watershed groups were funded through this watershed management initiative awarding a total of \$470,000 to community groups and researchers. The funding increase of 300 per cent is a direct result of recommendations of the public consultations on watersheds undertaken by the Environmental Advisory Council in early 2007.

As in other years, priority funding areas included watershed plan preparation, facilitation and strategic planning, and building capacity of watershed organizations. As a result of funding, other traditional watershed restoration activities including stream enhancement, fish passage restoration, riparian and upland tree planting, wetland enhancement and watershed group newsletters were also carried out by many watershed organizations. The funding increase allowed for a number of watershed groups to initiate activities that will lead to full fledged watershed planning in their areas.

Long-term water quality monitoring was continued on groundwater, fresh water and estuary sites as part of the Canada-PEI Water Quality Agreement. The PEI Estuaries Program and the Freshwater Loading Program monitor estuaries and streams across the Island for receiving water quality and freshwater loading respectively. In 2007, the section assumed operation of the department's pesticide monitoring program. Over 100 groundwater locations, two rivers and several fish and

shellfish collections were monitored for pesticides.

Long-term groundwater level monitoring was continued at 13 groundwater wells throughout the province. These observation wells are instrumented and monitor fluctuations in the water table on a daily basis. Four sites are outfitted with real-time communications equipment. In 2007, through a \$47,000 Canada-PEI National Water Program project, the monitoring network was increased by four sites. In addition, the department equipped four existing groundwater monitoring sites with communications capabilities. In total, the network has expanded to 17 sites, of which 11 communicate results in a real-time fashion.

The section established a Regional Technical Advisory Group (RTAG) consisting of four maritime scientists and section support assistance to determine nutrient loading targets for estuaries across PEI. The RTAG will be utilizing the framework from CCME for the Management of Nearshore Marine Systems. This will be a multi-year project that will have important consequences for remedial watershed work to restore estuarine water quality. The output from this process will factor into groundwater modeling completed by section staff especially related to nitrate contamination and movement.

Web-based data reporting is a strong component of the section's outreach to the Island public. Surface water results for both current and archive data is available on the department website. This data is viewable on a mapping application and a graphics application. The links are dynamic and automatically updated daily. Groundwater level information was available real time for four stations. Non real-time stations are updated approximately every two

months. A long-term goal of the program will be to have all of the groundwater sites fitted with communications equipment to provide real time access.

Short-term stream flow monitoring was completed at a number of sites to assess the impact of irrigation from streams. Discharge measurements were performed three to four times during the irrigation season to calibrate the relationship of stage-discharge at each site. These curves were used to monitor the stream flow and assist the decision-making of issuing irrigation permits.

As part of its regulatory work, the section issues watercourse and wetland alteration permits for acceptable activities around streams and wetlands. In the fall of 2007 with support from the Office of the Attorney General, work commenced on a significant revision of the buffer zone provisions in the *Environmental Protection Act*.

The Watershed Management Section continued to work with the Sustainable Agriculture Section of the Department of Agriculture, Fisheries and Aquaculture, the Federation of Agriculture, Agriculture and Agri-Food Canada, the Souris Branch of the PEI Wildlife Federation and the Trout River Environmental Committee on a two-year ecological goods and service pilot for PEI utilizing an Alternative Land Use Service (ALUS) model. This program has producers in the two watersheds working with their watershed groups to supply services that enhance water quality and habitat.



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